

A New Serranid Fish Found in Japan

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By the courtesy of Mr. Shoji IGARASHI a number of species of fish obtained off Izu-Ōshima in October, 1952, came under my examination. Among them I found one interesting serranid fish not previously recorded from Japan. Upon careful examination of this fish, it was found that it represents a new genus and species which is described herein as *Giganthias immaculatus*.

I wish to express my gratitude to Prof. Kiyomatsu MATSUBARA for his kindness extended to me in various ways. I am also greatly indebted to Mr. IGARASHI for his favour of the valuable specimen.

Giganthias, new genus

Body oblong, compressed. Month large; a supplemental maxillary present; jaws with a broad band of villiform teeth and a patch of large conical teeth on tips of jaws and near the middle on sides of lower jaw; vomer, palatines and pharyngeal bones with villiform teeth; tongue rough, with many spinules. Preopercle finely serrated on both posterior and lower borders; opercle with three spines. Scales large and ctenoid; head scaled except for interorbital space, snout, preorbital, mandible and throat; soft portions of both dorsal and anal scaled at their bases. Lateral line complete and high; its tubes simple; no angle at the base of caudal peduncle. Dorsal fin not notched, with 9 spines and 13 rays; the spinous portion longer than the soft; the soft portion higher and rounded; dorsal spine strong; the fourth the longest; tip of the third spine expanded and the anterior and upper margin serrated. Anal short, with 3 spines and 8 rays; the soft portion rounded. Pectoral pointed and asymmetrical. Spine of ventral fin strong and with serrated tip as is the case with third dorsal spine.

Cranium broad and heavy. Base of cranium strongly curved. Frontal very broad, slightly convex, with a transverse ridge between posterior borders of orbits. Supraoccipital crest high and strong, not produced on the frontals. Myodome not opens posteriorly. Lower edge of urohyal with a large pointed projection, which directed forward. Branchiostegal rays 7; the last three rays lanceolate, the last one the broadest. Vertebrae 10+14+hypural=25; parapophysis developed from the sixth vertebra. Inner surface of oesophagus with many conical projections; pyloric coeca few. Air bladder simple.

Genotype: *Giganthias immaculatus*.

This genus is rather related to *Anthias* BLOCH, but differs from it in having the serrated tip of the third dorsal spine and the ventral fin spine, a patch of large conical teeth on the tip of jaws and near the middle on the sides of lower jaw, supplemental maxillary and nine dorsal spines.

From *Seleanthias* TANAKA it differs in having the serrated tip of the third dorsal

spine and the ventral fin spine, a patch of large conical teeth on the tip of jaws and near the middle on sides of lower jaw, forked caudal fin, no scales on interorbital space, and nine dorsal spines.

Gigantias immaculatus, new species
(new Japanese name: Mihara-hanadai)

Holotype.—KATAYAMA'S Fish Coll. No. 1534, a minute female specimen, 252 mm in standard length, off Izu-Ōshima, collected by Mr. Shozi IGARASHI in October 1952.

Paratype.—K. F. C. No. 1535, 290 mm, date the same as holotype.

Description.—The counts and proportional measurements of bodily parts of the holotype and the paratype are shown in Table 1. Body oblong, compressed, dorsal and ventral outlines almost uniformly arched. Head compressed, shorter than depth of body, and with evenly and steeply curved profile. Eye large, high and entirely in the anterior half of head. Interorbital space slightly convex, broader than diameter of orbit. Two nostrils close together and directly in front of eye; the anterior one small, rounded, and with an elevated rim and a posterior flap; the posterior one large and elliptical. Mouth large and oblique; lower jaw very slightly projecting beyond the tip of upper jaw when the mouth is closed; maxillary expanded distally, extending a vertical through posterior border of pupil; a supplemental maxillary present (Fig. 3. H); villiform teeth in broad bands in each jaw, posterior teeth in each jaw

Table 1. Counts and proportional measurements in *Gigantias immaculatus*.

Items	Holotype (♀)	Paratype
Body length	252 mm	290 mm
Dorsal rays	IX, 13	IX, 13
Anal rays	III, 8	III, 8
Pectoral rays	16	16
Gill-rakers	10+20	10+21
Branchiostegal rays	7	7
Vertebrae	—	10+15
Pyloric coeca	—	10
Scales in lateral line	44	42
In body length:		
Head	2.96	2.09
Depth	2.42	2.31
Distance from ventral base to anal origin	2.77	2.90
Dist. from tip of snout to dorsal origin	2.71	2.68
Dist. from tip of snout to upper pectoral base	3.11	2.87
Dist. from tip of snout ventral base	2.69	2.59
Dist. from tip of snout to anal origin	1.48	1.45
Dist. from tip of snout to vent	1.58	1.56
Base of spinous dorsal portion	3.55	3.86
Base of soft dorsal portion	5.04	5.27
Base of anal	6.14	5.68

In head length :		
Snout	4.25	4.00
Eye	3.33	3.45
Interorbital space	2.74	2.63
Posterior part of head	2.02	2.04
Maxillary	1.88	1.85
Length of caudal peduncle	1.54	1.53
Depth of caudal peduncle	2.42	2.35
Longest pectoral ray	1.16	1.31
Longest ventral ray	1.39	1.33
Length of ventral spine	2.02	2.22
Longest dorsal spine	3.26	2.98
Last dorsal spine	3.69	3.84
Longest soft dorsal ray	2.07	2.17
First anal spine	6.53	5.26
Second anal spine	3.40	3.33
Third anal spine	3.54	3.33
Longest anal ray	2.17	2.22
In eye diameter :		
Longest gill-raker	2.21	1.93
Longest gill filament	2.55	2.76

somewhat enlarged; a patch of large conical teeth on tip of jaws and near the middle on sides of lower jaw (Fig. 3. F. G.); vomer, palatines, and pharyngeal bones with villiform teeth; tongue rough, with many spinules. Preopercle finely serrated on both posterior and lower borders; subopercle and interopercle weakly serrated near the region of their union; opercle with three spines (Fig. 3. A.). Gill-rakers elongate, close-set and uniformly covered with many spinules on inner surface. Pseudobranchiae

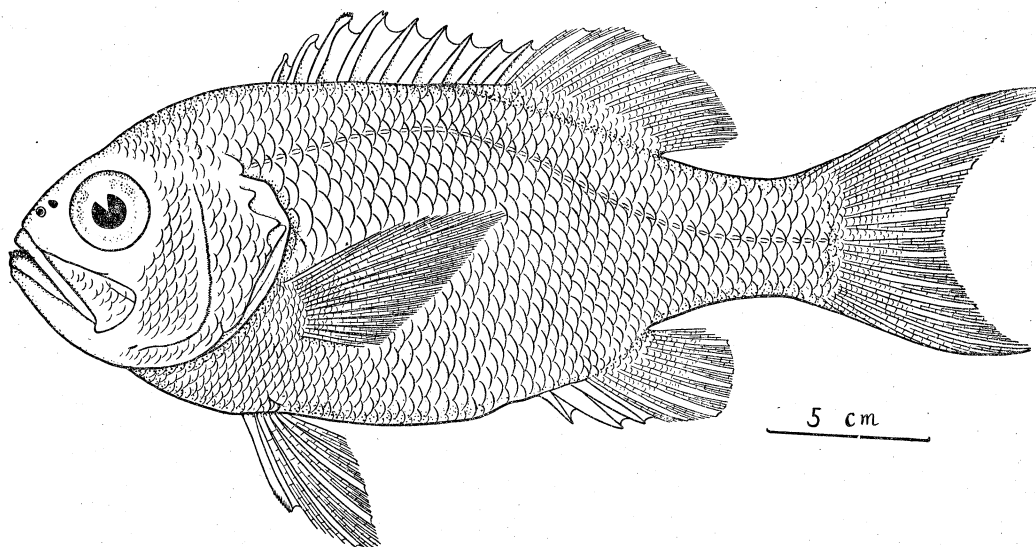


Fig. 1. *Giganthias immaculatus* in lateral view, from the holotype, 252 mm in standard length. Drawing by author.

well developed. Scales large, ctenoid; those 8 in a series from origin of dorsal to lateral line and 19 from origin of anal to lateral line; head scaled except for interorbital space, snout, preorbital, mandible and throat; soft portions of both dorsal and anal scaled at their bases; caudal mostly covered with small scales. Lateral line high, complete, concurrent with back, ending at the base of caudal; anterior portion of the line substraight, with the highest point beneath the seventh spine of dorsal; its tubes simple.

Dorsal inserted over posterior end of opercular flap; no distinct notch between spinous and soft portions; the spinous portion longer than the soft; the soft portion higher and rounded; dorsal spine strong, the fourth the longest; tip of the third spine expanded and the anterior and upper margin serrated. Anal originated below base of fourth dorsal soft ray; anal short; spines very strong, the second and third spines subequal; the soft portion rounded. Pectoral pointed and asymmetrical, reaching to anus. Ventral inserted below lower end of base of pectoral; spine strong, with serrated tip. Caudal deeply forked.

Cranium broad and heavy, the height about 1.63 in base of cranium, the width about 1.34. Base of cranium strongly curved. Frontals thick, interorbital space slightly convex and very broad, becoming

wider posteriorly, the width at middle part about 1.76 in base of cranium; a transverse ridge between posterior borders of the orbits developed and anterior region of the ridge rugose. Supraoccipital crest high and strong, not produced onto frontals. (Fig. 2. A. B.) Myodome never opens to the exterior through a foramen, but the lower face of basioccipital with a pit. Urohyal large, longer than ceratohyal; the lower edge with a large pointed projection, which directed forward. (Fig. 3. D. E.) Branchiostegal rays 7; the last three rays lanceolate, the last one the broadest. (Fig. 3. B) Vertebrae $10+14+\text{hypural}=25$; parapophysis developed from the sixth vertebra. Inner surface of oesophagus with many conical projections; pyloric coeca 10. Air bladder simple.

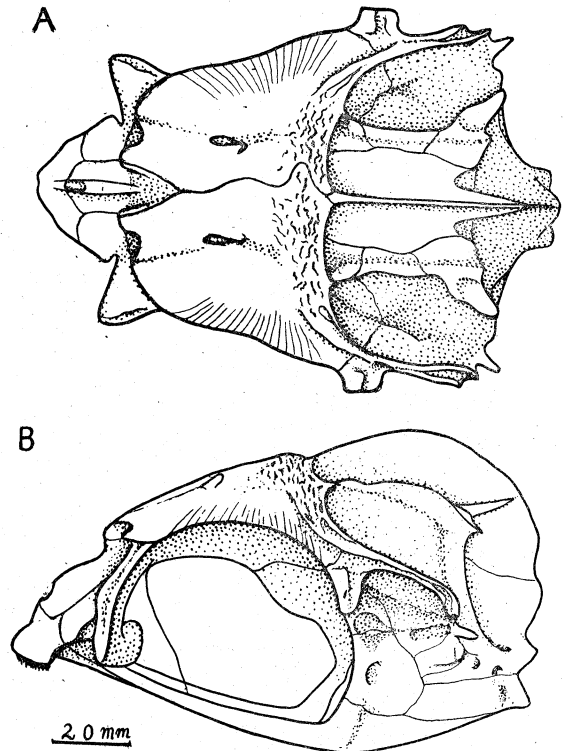


Fig. 2. Cranium of *Gigantias immaculatus* (290 mm in standard length). A, dorsal aspect; B, lateral aspect. Drawings by author.

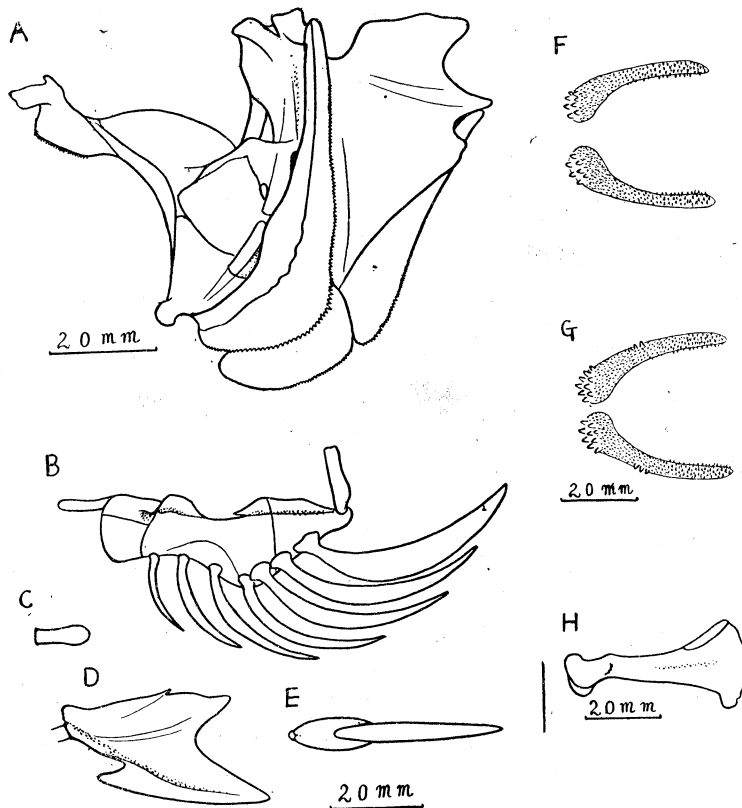


Fig. 3. Outline of left aspect of suspensorium (A), hyoid apparatus (B-E), teeth on upper (F) and lower (G) jaws and lateral aspect of maxillary and supplemented bone (H) in *Giganthias immaculatus*. B, lateral aspect of the hyoid apparatus; C, upper aspect of the glossohyal; D, lateral aspect of the urohyal. Drawings by author.

Color in spirits purplish pink, sides and below little paler and lower surface with bright silvery white reflections; a purplish pink streak from top of snout to lower border of eye; irregular yellow spots on spinous dorsal; other fins all pale.

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